# Cassette auto radio 22DC550/00/78

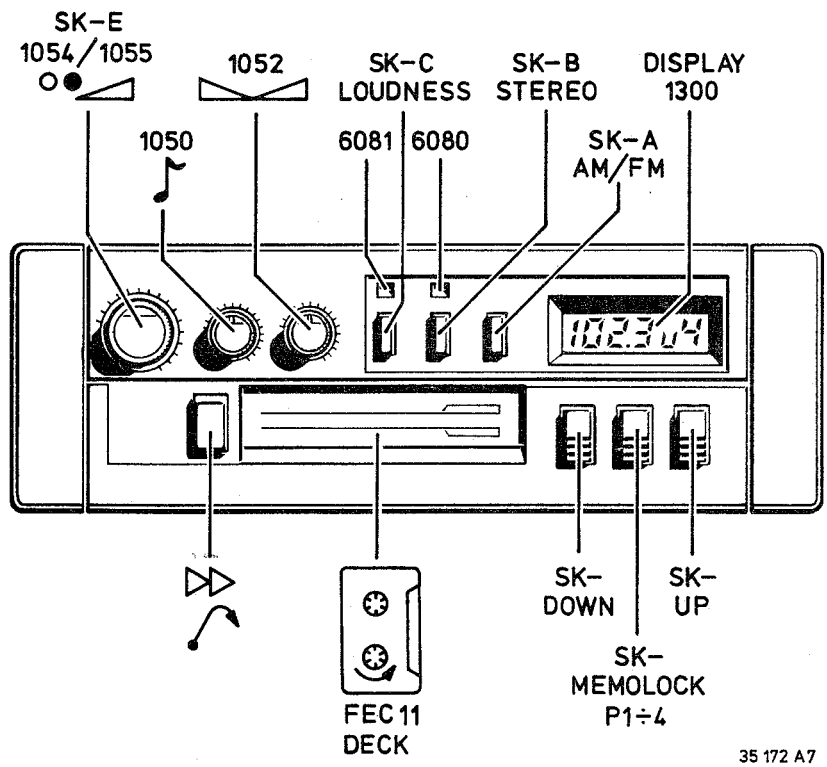
Service
Service
**Service**

**22DC551/00**

**For repair information of the cassette deck see service manual of auto cassette deck FEC II.**

# Service Manual

12 V

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Documentation Technique Service Dokumentation Documentazione di Servizio Huolte-Ohje Manual de Servicio Manual de Serviço

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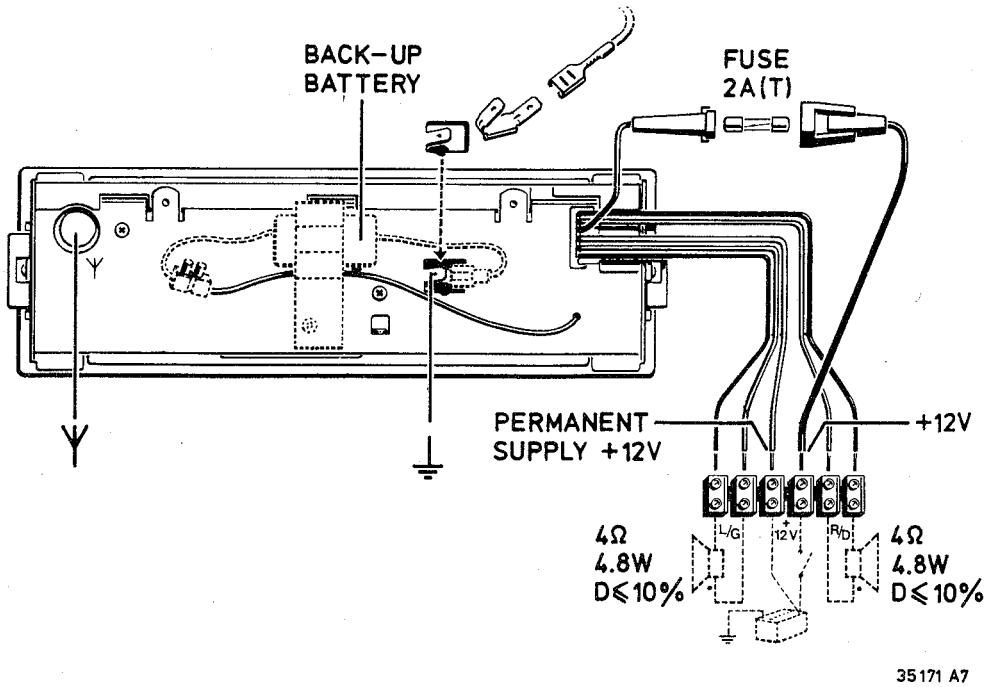
"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".


PHILIPS




## (GB) TECHNICAL DATA

### General

| | |
|---|---|
| Power supply | : 14.4 V |
| Dimensions (w x h x d) | : 180 x 51 x 117 mm |

### Radio

| | |
|---|---|
| MW (DC550) | : 531 - 1602 kHz |
| LW (DC551) | : 145 - 289 kHz |
| IF-AM | : 468 kHz |
| FM | : 87.5 - 108 MHz |
| IF-FM | : 10.7 MHz |
| Sensitivity for 26 dB S/N | : ⩽ 5 μV (FM)<br>⩽ 150 μV (MW)<br>⩽ 150 μV (LW) |
| Limiting —3 dB | : 7 μV |
| 10 dB crosstalk | : 200 μV (stereo signal) |

### Cassette player

| | |
|---|---|
| Number of tracks | : 2x2 |
| Tape speed | : 4.76 cm/sec |
| Wow and flutter | : ⩽ 0.3% |
| Crosstalk | : ⩾ 35 dB |
| Frequency range | : 40-14.000 Hz |

### Amplifier

| | |
|---|---|
| Output D⩽10% | : 2x4.8 W ± 1 dB at 4 Ω |
| Bass | : +/— 6 dB at 100 Hz |
| Treble | : +/— 14 dB at 10 kHz |

## (NL) TECHNISCHE GEGEVENS

### Algemeen

| | |
|---|---|
| Voeding | : 14,4 V |
| Afmetingen (b x h x d) | : 180 x 51 x 117 mm |

### Radio

| | |
|---|---|
| MG (DC550) | : 531 - 1602 kHz |
| LG (DC551) | : 145 - 289 kHz |
| MF-AM | : 468 kHz |
| FM | : 87,5 - 108 MHz |
| MF-FM | : 10,7 MHz |
| Gevoeligheid voor 26 dB S/N | : ⩽ 5 μV (FM)<br>⩽ 150 μV (MG)<br>⩽ 150 μV (LG) |
| Begrenzing —3 dB | : 7 μV |
| 10 dB overspraak | : 200 μV (stereo signaal) |

### Cassettespeler

| | |
|---|---|
| Aantal sporen | : 2x2 |
| Bandsnelheid | : 4,76 cm/sec |
| Wow en flutter | : ⩽ 0,3% |
| Overspraak | : ⩾ 35 dB |
| Frequentie bereik | : 40-14.000 Hz |

### Versterker

| | |
|---|---|
| Uitgang (D ⩽ 10%) | : 2x4,8 W ± 1 dB/4 Ω |
| Lage tonen | : +/— 6 dB bij 100 Hz |
| Hoge tonen | : +/— 14 dB bij 10 kHz |

## (F) CARACTERISTIQUES TECHNIQUES

**Généralités**

| | |
|---|---|
| Alimentation | : 14,4 V |
| Dimensions (l x h x p) | : 180 x 51 x 117 mm |

**Radio**

| | |
|---|---|
| P.O. (DC550) | : 531 - 1602 kHz |
| G.O. (DC551) | : 145 - 289 kHz |
| FI-AM | : 468 kHz |
| FM | : 87,5 - 108 MHz |
| FI-FM | : 10,7 MHz |
| Sensibilité à 26 dB rapport signal/bruit | : ⩽ 5 µV (FM)<br>⩽ 150 µV (P.O.)<br>⩽ 150 µV (G.O.) |
| Limite —3 dB | : 7 µV |
| Diaphonie 10 dB | : 200 µV (signal stéréo) |

**Magnétophone cassette**

| | |
|---|---|
| Nombre de pistes | : 2x2 |
| Vitesse de défilement | : 4,76 cm/sec |
| Pleurage et scintillement | : ⩽ 0,3% |
| Diaphonie | : ⩾ 35 dB |
| Gamme de fréquence | : 40-14.000 Hz |

**Amplificateur**

| | |
|---|---|
| Sortie (D ⩽ 10%) | : 2x4,8 W ± 1 dB/4 Ω |
| Graves | : +/— 6 dB à 100 Hz |
| Aiguës | : +/— 14 dB à 10 kHz |

## (D) TECHNISCHE DATEN

**Allgemeines**

| | |
|---|---|
| Versorgungsspannung | : 14,4 V |
| Abmessungen (B x T x H) | : 180 x 51 x 117 mm |

**Rundfunkempfangsteil**

| | |
|---|---|
| MW (DC550) | : 531 - 1602 kHz |
| LW (DC551) | : 145 - 289 kHz |
| AM-ZF | : 468 kHz |
| UKW | : 87,5 - 108 MHz |
| FM-ZF | : 10,7 MHz |
| Emfindlichkeit für 26 dB S/R | : ⩽ 5 µV (UKW)<br>⩽ 150 µV (MW)<br>⩽ 150 µV (LW) |
| Begrenzungspunkt α—3 dB | : 7 µV |
| 10 dB Uebersprechen | : 200 µV (Stereo Signal) |

**Cassettenspieler**

| | |
|---|---|
| Spuren | : 2x2 |
| Bandgeschwindigkeit | : 4,76 cm/s |
| Gleichlaufschwankungen | : ⩽ 0,3% |
| Uebersprechen (1 kHz) | : ⩾ 35 dB |
| Frequenz bereich | : 40-14.000 Hz |

**Verstärker**

| | |
|---|---|
| Ausgang (D ⩽ 10%) | : 2x4,8 W ± 1 dB/4 Ω |
| Tiefen | : +/— 6 dB bei 100 Hz |
| Höhen | : +/— 14 dB bei 10 kHz |

## (I) DATI TECNICI

**Generale**

| | |
|---|---|
| Tensione d'alimentazione | : 14,4 V |
| Dimensioni | : 180 x 51 x 117 mm |

**Radio**

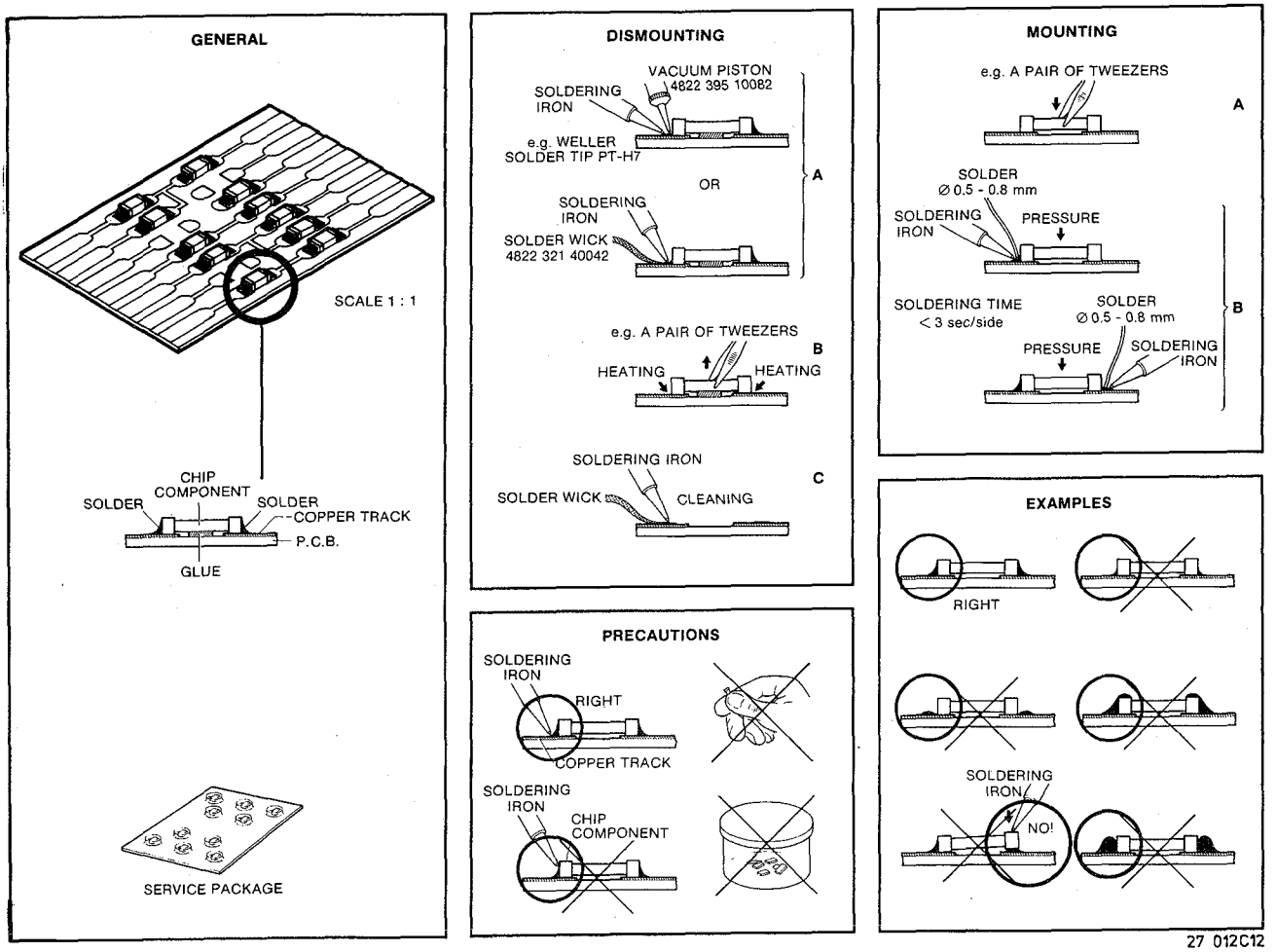
| | |
|---|---|
| MW (DC550) | : 531 - 1602 kHz |
| LW (DC551) | : 145 - 289 kHz |
| IF-AM | : 468 kHz |
| FM | : 87,5 - 108 MHz |
| IF-FM | : 10,7 MHz |
| Sensibilità per 26 dB S/N | : ⩽ 5 µV (FM)<br>⩽ 150 µV (MW)<br>⩽ 150 µV (LW) |
| Limite —3 dB | : 7 µV |
| 10 dB crosstalk | : 200 µV (segnale stereo) |

**Riproduttore**

| | |
|---|---|
| Numero delle piste | : 2x2 |
| Velocità del nastro | 4,76 cm/sec |
| Wow and flutter | : ⩽ 0,3% |
| Crosstalk | : ⩾ 35 dB |
| Gamma di frequenza | : 40-14.000 Hz |

**Amplificatore**

| | |
|---|---|
| Uscita (D ⩽ 10%) | : 2x4,8 W ± 1 dB a 4 Ω |
| Bassi | : +/— 6 dB a 100 Hz |
| Acuti | : +/— 14 dB a 10 kHz |

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| | | | |
|---|---|---|---|
| Carbon film 0.2 W | 70°C | 5% | |
| Carbon film 0.33 W | 70°C | 5% | |
| Metal film 0.33 W | 70°C | 5% | |
| Carbon film 0.5 W | 70°C | 5% | |
| Carbon film 0.67 W | 70°C | 5% | |
| Carbon film 1.15 W | 70°C | 5% | |

| | | |
|---|---|---|
| Ceramic plate Tuning ⩽ 120 pF NP.0 | 2% | |
| Others | —20/+80% | |
| Polyester flat foil | 10% | |
| Metalized polyester flat film | 10% | |
| Polyester flat foil small size (Mylar) | 10% | |
| Polysterene film/foil | 1% | |
| Tubular ceramic | | |
| Miniature single | | |
| Subminiature tantalum | ± 20% | |

| | |
|---|---|
| *a | = 2,5 V |
| b | = 4 V |
| c | = 6,3 V |
| d | = 10 V |
| e | = 16 V |
| f | = 25 V |
| g | = 40 V |
| h | = 63 V |
| j | = 100 V |
| l | = 125 V |
| m | = 150 V |
| n | = 160 V |
| q | = 200 V |
| r | = 250 V |
| s | = 300 V |
| t | = 350 V |
| u | = 400 V |
| v | = 500 V |
| w | = 630 V |
| x | = 1000 V |
| A | = 1,6 V |
| B | = 6 V |
| C | = 12 V |
| D | = 15 V |
| E | = 20 V |
| F | = 35 V |
| G | = 50 V |
| H | = 75 V |
| I | = 80 V |

Ⓒ Chip component

27 037A/C

## (GB) REPAIR HINTS

**Service test programme**

The test programme is called as follows: switch off the set, press button "UP", switch on the set, then depress button "DOWN" within 0.5 sec.
Now the $\mu$C is testing the RAM. If there are no faults, the display will indicate "188.85", otherwise "INFO" will appear.

## (F) CONSEILS REPARATION

**Programme d'essai Service**

Le programme d'essai est appelé comme suit:
mettre l'appareil hors service, presser la touche "UP" et mettre l'appareil en marche et alors presser la touche "DOWN" dans 0,5 sec.
Le $\mu$-ordinateur teste à présent la RAM.
S'il n'y a pas de défauts qui se présente, l'afficheur fait apparaître "188.85", sinon il y a "INFO".

## (I) CONSIGLI RIPARAZIONE

**Programme di prova Servizio**

Il programma di prova è "nichiamato" come segue:
mettere l'apparecchio fuoi funzionamento, premere il tasto "UP" e mettere l'apparecchio in marcia e premere il tasto "DOWN" a 0,5 sec.
Il $\mu$-ordinatore eseguisce la prova della RAM. Se non ci sono guasti, la visualizzazione fa apparire "188.85" se ci sono guasti, apparirà "INFO".

## (NL) REPARATIEWENKEN

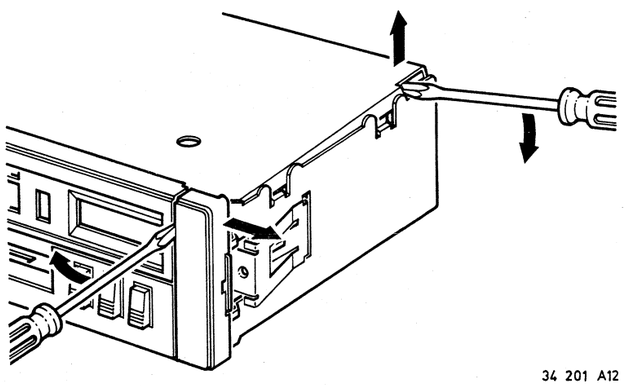
**Service Testprogramma**

Het testprogramma wordt als volgt opgeroepen:
apparaat uitschakelen, toets "UP" indrukken en apparaat inschakelen, dan toets "DOWN" binnen 0,5 sec indrukken.
De $\mu$C test nu de RAM. Als er geen fouten optreden geeft de display "188.85" aan, anders verschijnt "INFO".

## (D) REPARATURHINWEISE

**Service-Prüfprogramm**

Das Prüfprogramm wird folgendermassen abgerufen:
Gerät ausschalten, Taste "UP" drücken und Gerät einschalten, danach innerhalb 0,5 sec. taste "DOWN" drücken.
Der $\mu$C prüft nun den RAM. Wenn sich keine Fehler einstellen, erscheint am Display "188.85", sonst "INFO".



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## (GB) Preprogrammed frequencies

To simplify the adjustment each wave range has been preprogrammed with a certain number of frequencies. They are called as follows:
Switch off the set, press button P1÷4, switch on the set.
Dependent on the wave range the P-buttons have been preprogrammed with the following frequencies:

## (F) Fréquences préprogrammées

Afin de faciliter l'ajustage, un certain nombre de fréquences préprogrammées figurent sur chaque gamme d'onde. Celles-ci sont "rappelables" comme suit:
Mettre l'appareil hors service, presser la touche P1÷4 et mettre l'appareil en service.
Selon la gamme d'onde, la touche P aux fréquences ci-dessous, sera préprogrammée:

## (I) Frequenze preprogrammate

In modo di facilitare la regolazione, un certo numero di frequenze preprogrammate apparisce su ogni gamma d'onda. Queste frequenze possono essere richiamate nel modo seguente:
mettere l'apparecchio fuori marcia, premere il tasto P1÷4 et reinserire l'apparecchio.
A secondo della gamma d'onda, il tasto P alle frequenze di cui sotto sarà preprogrammata:

## (NL) Voorgeprogrammeerde frekwenties

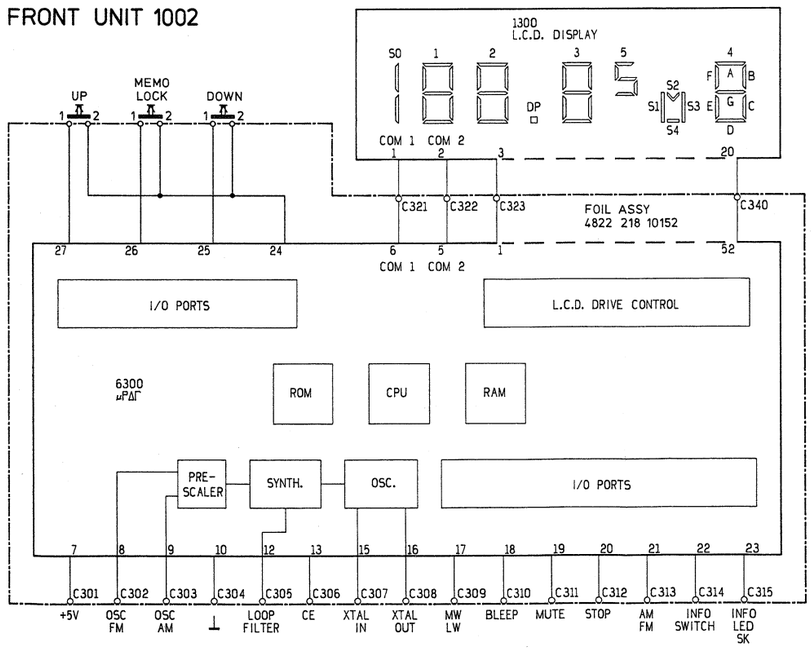
Om het afregelen te vergemakkelijken zijn op elk golfgebied een aantal frekwenties voorgeprogrammeerd.
Deze worden als volgt opgeroepen:
Apparaat uitschakelen, op toets P1÷4 drukken en apparaat inschakelen.
Afhankelijk van het golfgebied zijn de P-toetsen met onderstaande frekwenties voorgeprogrammeerd:

## (D) Vorprogrammierte Frequenzen

Zur Abgleicherleichterung sind in jedem Wellenbereich einige Frequenzen vorprogrammiert.
Sie werden wie folgt aufgerufen:
Gerät ausschalten, Taste P1÷4 drücken und Gerät einschalten.
Je nach dem Wellenbereich sind die P-Tasten mit nachstehenden Frequenzen vorprogrammiert:

| | P1 | P2 | P3 | P4 |
|---|---|---|---|---|
| FM | 87.50 | 93.00 | 100.00 | 108.00 MHz |
| MW | 531 | 648 | 1494 | 1602 kHz |
| LW | 145 | 175 | 250 | 289 kHz |

## FRONT UNIT 1002

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| µ COMP | L.C.D. | COM 1 | COM 2 |
|---|---|---|---|
| 6 | 1 | COM 1 | -- |
| 5 | 2 | -- | COM 2 |
| 52 | 3 | F1 | B1 |
| 51 | 4 | E1 | G1 |
| 50 | 5 | D1 | C1 |
| 49 | 6 | A1 | S0 |
| 48 | 7 | F2 | B2 |
| 47 | 8 | E2 | G2 |
| 46 | 9 | D2 | C2 |
| 45 | 10 | A2 | DP |
| 44 | 11 | F3 | B3 |
| 43 | 12 | E3 | G3 |
| 42 | 13 | D3 | C3 |
| 41 | 14 | A3 | S1 |
| 40 | 15 | S2 | S4 |
| 39 | 16 | S3 | -- |
| 37 | 17 | 5 | A4 |
| 36 | 18 | D4 | C4 |
| 35 | 19 | E4 | G4 |
| 34 | 20 | F4 | B4 |

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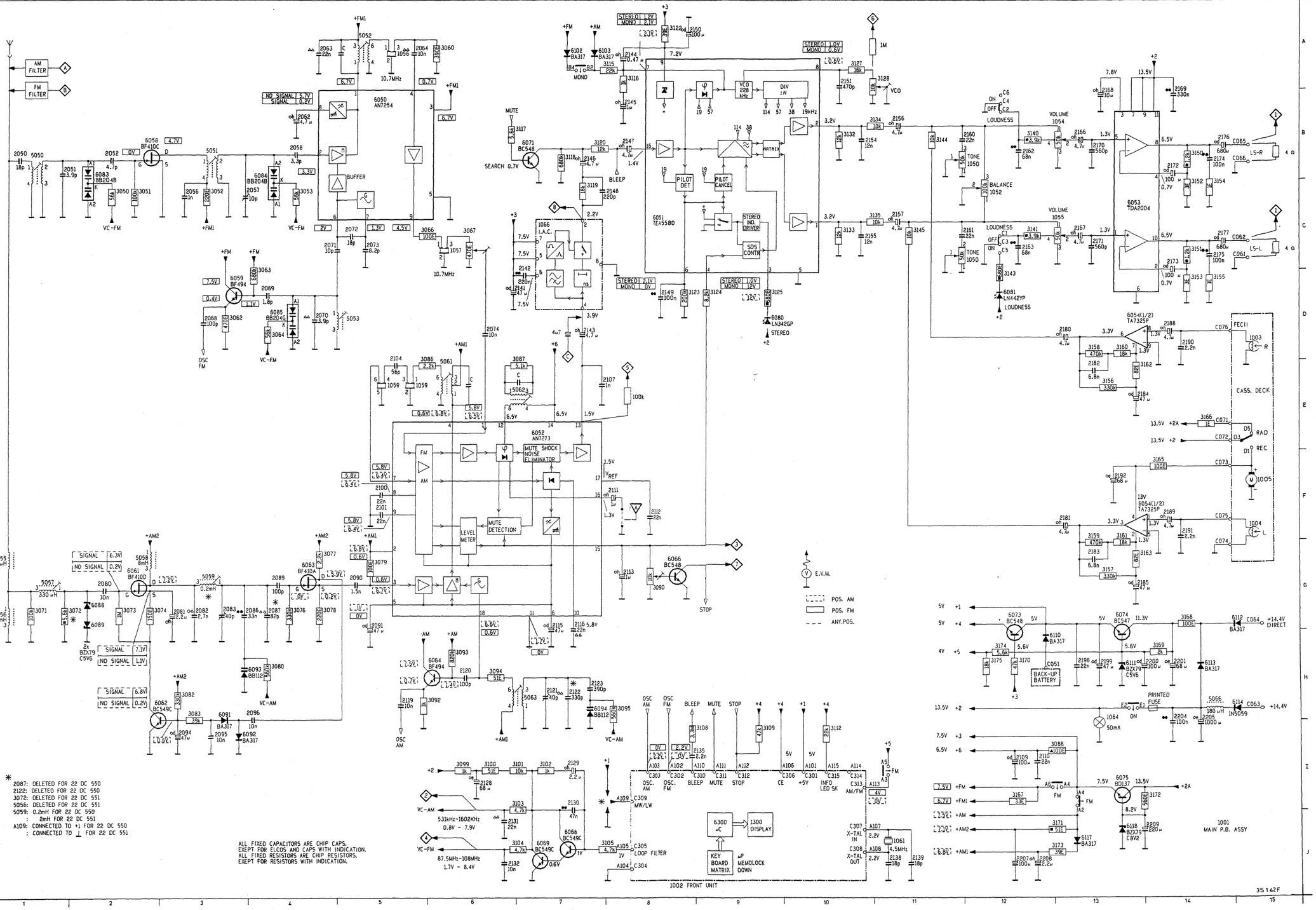
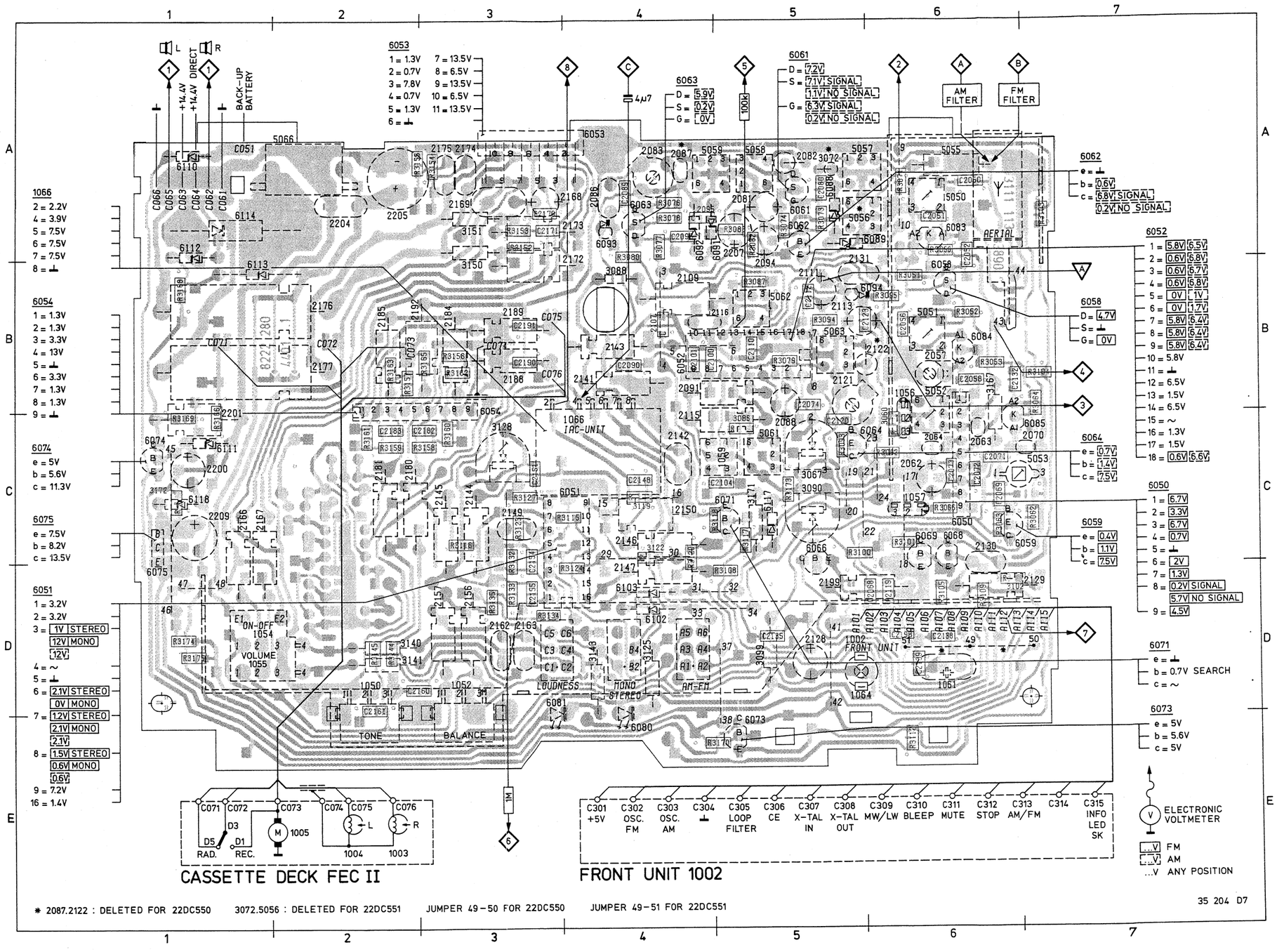

AM FILTER
FM FILTER
6052 AN7254
6050 AN7254
6053 TDA2004
6054(1/2) TA7325P
6051 TEA5580
6052 AN7273
6066 BF410A
6058 BF410C
6059 BF494
6061 BF400
6062 BC549C
6064 BF494
6071 BC548
6073 BC548
6074 BC547
6075 BD137
6080 LN342GP
6081 LN442YP
6083 BB204B
6084 BB204B
6085 BB204G
6088 BZX79 C5V6
6089 BZX79 C5V6
6092 BA317
6093 BB112
6094 BB112
6102 BA317
6103 BA317
6110 BA317
6111 BZX79 C5V6
6113 BA317
6117 BA317
6118 BZX79 C8V2
6300 µC
1300 DISPLAY
KEY BOARD MATRIX
µP MEMOLOCK DOWN
1002 FRONT UNIT
1001 MAIN P.B. ASSY
LS-R 4 Ω
LS-L 4 Ω
CASS. DECK
PLAY
REC
BACK-UP BATTERY
PRINTED FUSE
LOUDNESS
TONE
BALANCE
VOLUME
MUTE SHOCK NOISE ELIMINATOR
MUTE DETECTION
LEVEL METER
PILOT DET
PILOT CANCEL
STEREO IND. DRIVER
SDS CONTR
MATRIX
VCO
DIV :N
BUFFER
LOOP FILTER
MW/LW
FM
AM
VC-FM
VC-AM
OSC FM
OSC AM
STEREO
MONO
SEARCH 0.7V
BLEEP
MUTE
STOP
E.V.M.
POS. AM
POS. FM
ANY.POS.
ALL FIXED CAPACITORS ARE CHIP CAPS. EXEPT FOR ELCOS AND CAPS WITH INDICATION.
ALL FIXED RESISTORS ARE CHIP RESISTORS. EXEPT FOR RESISTORS WITH INDICATION.
2087: DELETED FOR 22 DC 550
2122: DELETED FOR 22 DC 550
3072: DELETED FOR 22 DC 551
5056: DELETED FOR 22 DC 551
5059: 0.2mH FOR 22 DC 550
: 2mH FOR 22 DC 551
A109: CONNECTED TO +1 FOR 22 DC 550
: CONNECTED TO ⊥ FOR 22 DC 551
35142F

| | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1002 | D 5 | 2162 | D 3 | 3124 | D 4 | 6103 | D 4 |
| 1050 | D 2 | 2163 | D 3 | 3125 | D 4 | 6110 | A 1 |
| 1052 | D 3 | 2166 | C 1 | 3127 | C 3 | 6111 | C 1 |
| 1054 | D 1 | 2167 | C 1 | 3128 | C 3 | 6112 | A 1 |
| 1055 | D 1 | 2168 | A 4 | 3132 | C 3 | 6113 | B 1 |
| 1056 | B 6 | 2169 | A 3 | 3133 | D 3 | 6114 | A 1 |
| 1057 | C 6 | 2170 | A 3 | 3134 | D 3 | 6117 | C 5 |
| 1059 | C 5 | 2171 | A 3 | 3135 | D 3 | 6118 | C 1 |
| 1061 | D 6 | 2172 | A 4 | 3140 | D 2 | | |
| 1064 | D 5 | 2173 | A 4 | 3141 | D 2 | | |
| 1066 | C 4 | 2174 | A 3 | 3143 | D 4 | | |
| 2050 | A 6 | 2175 | A 3 | 3144 | D 2 | | |
| 2051 | A 6 | 2176 | B 2 | 3145 | D 2 | | |
| 2052 | A 6 | 2177 | B 2 | 3150 | B 3 | | |
| 2056 | B 6 | 2180 | C 2 | 3151 | A 3 | | |
| 2057 | B 6 | 2181 | C 2 | 3152 | A 3 | | |
| 2058 | B 6 | 2182 | C 3 | 3153 | A 3 | | |
| 2062 | C 6 | 2183 | C 2 | 3154 | A 3 | | |
| 2063 | C 6 | 2184 | B 3 | 3155 | A 2 | | |
| 2064 | C 6 | 2185 | B 2 | 3156 | B 3 | | |
| 2068 | D 6 | 2188 | B 3 | 3157 | B 2 | | |
| 2069 | C 6 | 2189 | B 3 | 3158 | C 3 | | |
| 2070 | C 7 | 2190 | B 3 | 3159 | C 2 | | |
| 2071 | C 6 | 2191 | B 3 | 3160 | C 3 | | |
| 2072 | C 6 | 2192 | B 2 | 3161 | C 2 | | |
| 2073 | C 6 | 2198 | D 6 | 3162 | B 3 | | |
| 2074 | B 5 | 2199 | D 5 | 3163 | B 2 | | |
| 2080 | A 5 | 2200 | C 1 | 3165 | B 3 | | |
| 2081 | A 5 | 2201 | B 1 | 3166 | C 1 | | |
| 2082 | A 5 | 2204 | A 2 | 3167 | B 6 | | |
| 2083 | A 4 | 2205 | A 2 | 3168 | B 1 | | |
| 2086 | A 4 | 2207 | A 5 | 3169 | C 1 | | |
| 2088 | C 5 | 2209 | C 1 | 3170 | E 4 | | |
| 2089 | A 4 | 3050 | A 6 | 3171 | C 5 | | |
| 2090 | B 4 | 3051 | B 6 | 3172 | C 1 | | |
| 2091 | B 4 | 3052 | B 6 | 3173 | C 5 | | |
| 2094 | B 5 | 3053 | B 6 | 3174 | D 1 | | |
| 2095 | A 4 | 3060 | C 6 | 3175 | D 1 | | |
| 2096 | A 4 | 3062 | C 7 | 5050 | A 6 | | |
| 2100 | B 4 | 3063 | C 6 | 5051 | B 6 | | |
| 2101 | B 4 | 3064 | B 7 | 5052 | B 6 | | |
| 2104 | C 5 | 3066 | C 6 | 5053 | C 7 | | |
| 2107 | B 4 | 3067 | C 5 | 5055 | A 6 | | |
| 2109 | B 4 | 3071 | A 6 | 5057 | A 5 | | |
| 2110 | B 5 | 3073 | A 5 | 5058 | A 5 | | |
| 2111 | B 5 | 3074 | A 5 | 5059 | A 4 | | |
| 2112 | B 5 | 3076 | A 4 | 5061 | C 5 | | |
| 2113 | B 5 | 3077 | A 4 | 5062 | B 5 | | |
| 2115 | C 4 | 3078 | A 4 | 5063 | B 5 | | |
| 2116 | B 5 | 3079 | B 5 | 5066 | A 2 | | |
| 2119 | D 6 | 3080 | A 4 | 6050 | C 6 | | |
| 2120 | C 5 | 3082 | A 5 | 6051 | C 4 | | |
| 2121 | B 5 | 3083 | A 5 | 6052 | B 4 | | |
| 2123 | B 5 | 3086 | C 5 | 6053 | A 4 | | |
| 2128 | D 5 | 3087 | B 5 | 6054 | B 2 | | |
| 2129 | D 7 | 3088 | B 4 | 6058 | B 6 | | |
| 2130 | C 6 | 3090 | C 5 | 6059 | C 7 | | |
| 2131 | A 5 | 3092 | C 6 | 6061 | A 5 | | |
| 2132 | B 6 | 3093 | C 5 | 6062 | A 5 | | |
| 2135 | D 5 | 3094 | B 5 | 6063 | A 4 | | |
| 2138 | D 6 | 3095 | B 6 | 6066 | C 5 | | |
| 2139 | D 6 | 3099 | D 5 | 6068 | C 6 | | |
| 2141 | B 4 | 3100 | C 5 | 6069 | C 6 | | |
| 2142 | C 4 | 3101 | C 6 | 6071 | C 5 | | |
| 2143 | B 4 | 3102 | D 6 | 6073 | E 5 | | |
| 2144 | C 3 | 3103 | A 7 | 6074 | C 1 | | |
| 2145 | C 3 | 3104 | B 7 | 6075 | D 1 | | |
| 2146 | C 4 | 3105 | D 6 | 6080 | E 4 | | |
| 2147 | D 4 | 3108 | D 5 | 6081 | D 3 | | |
| 2148 | C 4 | 3109 | D 6 | 6083 | A 6 | | |
| 2149 | C 3 | 3112 | E 6 | 6084 | B 6 | | |
| 2150 | C 4 | 3115 | C 3 | 6085 | C 7 | | |
| 2151 | C 3 | 3116 | C 3 | 6088 | A 5 | | |
| 2154 | C 3 | 3117 | C 5 | 6089 | A 6 | | |
| 2155 | D 3 | 3118 | C 4 | 6091 | A 5 | | |
| 2156 | D 3 | 3119 | C 4 | 6092 | A 4 | | |
| 2157 | D 3 | 3120 | C 4 | 6093 | A 4 | | |
| 2160 | D 2 | 3122 | C 4 | 6094 | B 6 | | |
| 2161 | D 2 | 3123 | C 3 | 6102 | D 4 | | |

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**ADJUSTMENTS**

| Adjustment | SK | → | ◇ | ▭ | ⌀ | 📻 | 📺 |
|---|---|---|---|---|---|---|---|
| MW oscillator DC550 | MW | no signal | | 531 kHz | 5063 | ◇2 0.8 V⎓ | |
| | | | | 1602 kHz | 2121 | ◇2 8.0 V⎓ | |
| MW-IF DC550 | MW | 648 kHz<br>1 kHz, AM=30% | ◇A | ▭ | 5061 | ◇1 max.~ | |
| MW-RF DC550 | MW | 648 kHz<br>1 kHz, AM=30% | ◇A | P2 | 5059 | ◇1 max.~ | |
| | | 1494 kHz<br>1 kHz, AM=30% | | P3 | 2083 | | |
| LW oscillator DC551 | LW | no signal | | 145 kHz | 5063 | ◇2 0.8 V⎓ | |
| | | | | 289 kHz | 2121 | ◇2 8.0 V⎓ | |
| LW-IF DC551 | LW | 175 kHz<br>1 kHz, AM=30% | ◇A | ▭ | 5061 | ◇1 max.~ | |
| LW-RF DC551 | LW | 175 kHz<br>1 kHz, AM=30% | ◇A | P2 | 5059 | ◇1 max.~ | |
| | | 250 kHz<br>1 kHz, AM=30% | | P3 | 2083 | | |
| FM oscillator | FM | no signal | | 108 MHz | 5053 | ◇4 8.0 V⎓ | |
| FM-IF+detector | FM | 93 MHz wobbel<br>50 Hz, △f=300 kHz | ◇B | P2 | 5052 | ◇1 max.~ [1] | |
| | | | | | 5062 | | [2] ◇5 ◇7 |
| FM-RF | FM | 87.5 MHz<br>1 kHz, △f=22.5 kHz | ◇B | P1 | 5050<br>5051 | ◇1 max.~ | |
| | | 100 MHz<br>1 kHz, △f=22.5 kHz | | P3 | 2057 | | |
| FM search level | FM | 93 MHz, 35 μV | ◇B | P2 | 3090 | ◇7 5V / 0V | |
| α —3 dB | FM | 93 MHz, 7 μV<br>1 kHz, △f=22.5 kHz | ◇B | P2 | 3067 | ◇1 —3 dB | |
| VCO stereo decoder | FM | no signal | | | 3128 | ◇6 228 kHz ±1kHz | |

**GB**

[1] Connect 1 and 3 of 5062

[2] Remove the short-circuit 1-3 of 5062
Adjust for maximum symmetrical S-curve, see Fig. 1.

[3] Adjust for maximum symmetrical stop pulse, see Fig. 1.

**NL**

[1] 1 en 3 van 5062 met elkaar verbinden.

[2] Kortsluiting 1-3 van 5062 opheffen
Afregelen op max. symmetriese S-kromme, zie Fig. 1.

[3] Afregelen op max. symmetriese stoppuls, zie Fig. 1.

**F**

[1] Relier 1 et 3 de 5062 l'un à l'autre.

[2] Eliminer le court-circuit de 1-3 de 5062
Ajuster pour un maximum de symétrie de la courbe en S, voir Fig. 1.

[3] Ajuster pour un maximum de symétrie de l'impulsion d'arrêt, voir Fig. 1.

**I**

[1] Collegare 1 e 3 di 5062 l'uno all'altro.

[2] Eliminare il cortocircuito de 1-3 di 5062.
Regolare per massima simmetria della curva ad S, vedi Fig. 1.

[3] Regolare per massima simmetria dell'impulsio di arresto, vedi Fig. 1.

**D**

[1] Anschlüsse 1 und 3 von 5062 miteinander verbinden.

[2] Kurzschluss an Anschlüssen 1 und 3 von 5062 beheben.
Auf max. symmetrische S-Kurve abgleichen, siehe Bild 1.

[3] Auf max. symmetrischen Stoppimpuls abgleichen, siehe Bild 1.

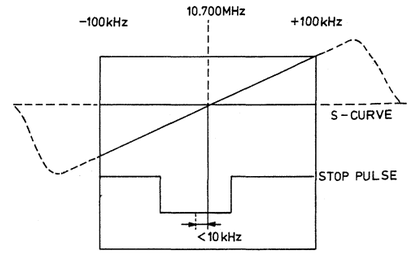
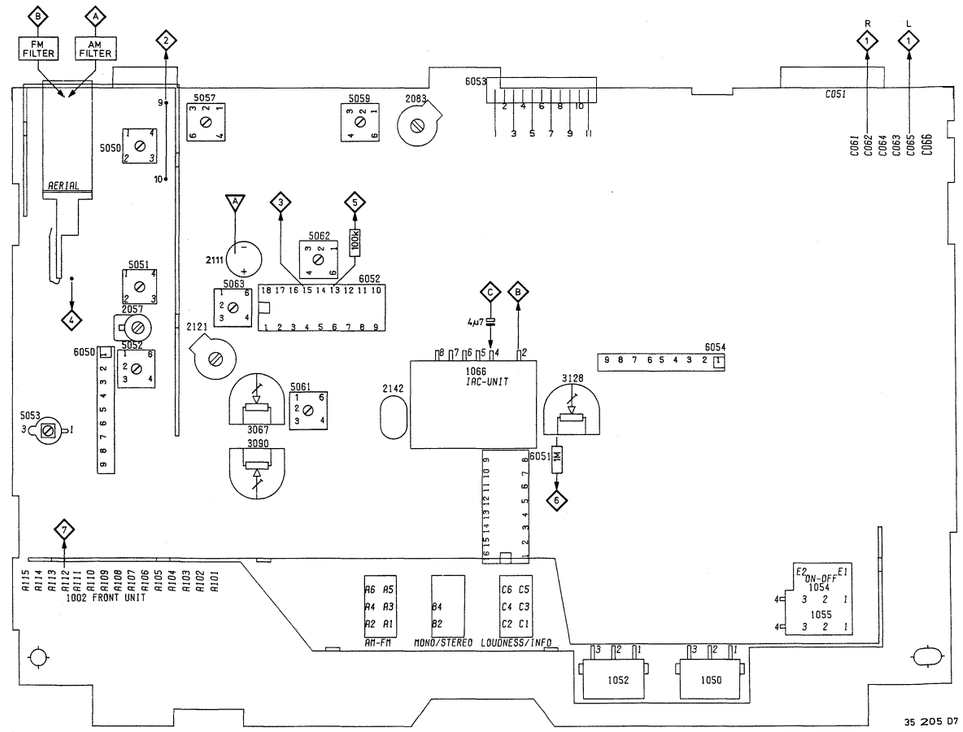
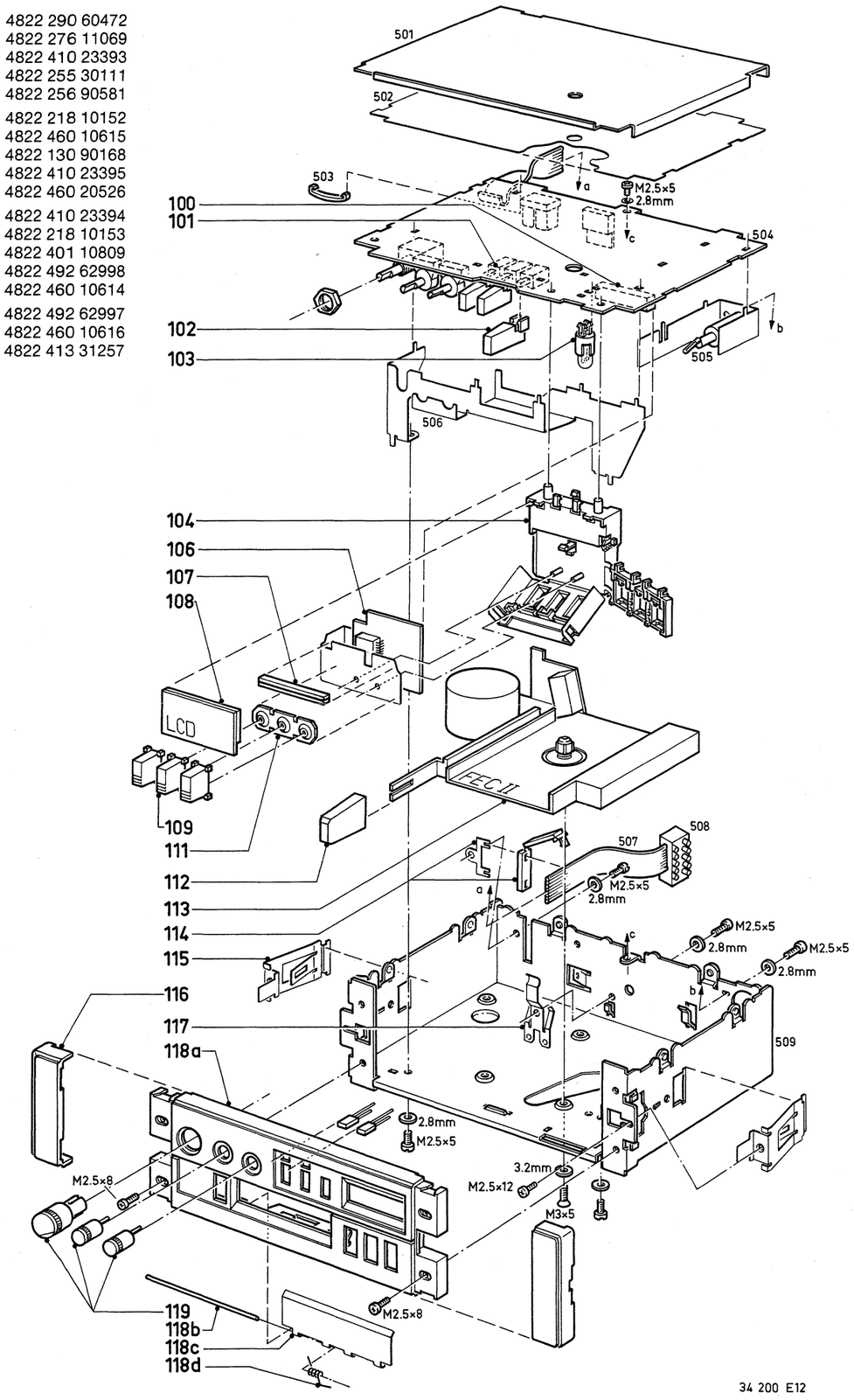



Fig. 1



| | |
|---|---|
| 100 | 4822 290 60472 |
| 101 | 4822 276 11069 |
| 102 | 4822 410 23393 |
| 103 | 4822 255 30111 |
| 104 | 4822 256 90581 |
| 106 | 4822 218 10152 |
| 107 | 4822 460 10615 |
| 108 | 4822 130 90168 |
| 109 | 4822 410 23395 |
| 111 | 4822 460 20526 |
| 112 | 4822 410 23394 |
| 113 | 4822 218 10153 |
| 114 | 4822 401 10809 |
| 115 | 4822 492 62998 |
| 116 | 4822 460 10614 |
| 117 | 4822 492 62997 |
| 118 | 4822 460 10616 |
| 119 | 4822 413 31257 |




34 200 E12

**CHECKS**

| Check | SK | | | | Setting of controls | | |
|---|---|---|---|---|---|---|---|
| α -3 dB | FM | 93 MHz : 1 mV<br>1000 Hz, Δf=22,5 kHz | B | | | ① 0 dB (≡775 mV) | |
| | | 93 MHz : 7 μV<br>1000 Hz, Δf=22,5 kHz | | | | ① —3 dB | |
| SDS | FM stereo | 93 MHz : 1 mV<br>stereo signal | B | | + | ① R: 0 dB<br>① L: 0 dB | |
| | | 93 MHz : 80 μV<br>stereo —R | | | | ① L— ① R=10 dB | |
| Crosstalk | FM stereo | 93 MHz : 1 mV<br>stereo signal | B | | + | ① R: 0 dB<br>① L: 0 dB | |
| | | 93 MHz : 1 mV<br>stereo —R | | | | ① L— ① R: ⩾ 15 dB | |
| SDR | FM | 93 MHz : 1 mV<br>10 kHz, Δf=22,5 kHz | B | | | ① : 0 dB | |
| | | 93 MHz : 20 μV<br>10 kHz, Δf=22,5 kHz | | | | ① : —10 dB | |
| Search level FM | FM | 93 MHz : 30-40 μV | B | Press search | | display<br>93 MHz | |
| IAC | FM | τ= 10 μs<br>T= 300 μs<br>VP= 50 mV | C | | | | 8<br>20-35 μs |
| 26 dB S/N | FM | 93 MHz : ⩽5 μV<br>1 kHz, Δf=22,5 kHz | B | | | ① 2 V~ (= 0 dB) | |
| | | 93 MHz : ⩽5 μV<br>without modulation | | | | ① —26 dB | |
| | MW | 648 kHz : ⩽150 μV<br>1 kHz, AM=30% | A | | | ① 2 V~ (= 0 dB) | |
| | | 648 kHz : ⩽150 μV<br>without modulation | | | | ① —26 dB | |
| | LW | 250 kHz : ⩽150 μV<br>1 kHz, AM=30% | A | | | ① 2 V~ (= 0 dB) | |
| | | 250 kHz : ⩽150 μV<br>without modulation | | | | ① —26 dB | |
| AM search level | MW | 1494 kHz : 400 μV | A | Press search | | display<br>1494 kHz | |

| | | |
|---|---|---|
| 1050 | Tone | 4822 102 30421 |
| 1052 | Balance | 4822 101 30524 |
| 1054 | Volume | 4822 102 40073 |
| 3067 | 470E | 4822 100 10038 |
| 3090 | 10k | 4822 100 10035 |
| 3128 | 10k | 4822 100 10035 |

| | | |
|---|---|---|
| 2057 | 10 pF-3 pF | 4822 125 50199 |
| 2083 | 40 pF | 4822 125 50092 |
| 2121 | 40 pF | 4822 125 50092 |

| | | |
|---|---|---|
| 5050 | FM aerial | 4822 156 10666 |
| 5051 | FM-RF | 4822 156 10664 |
| 5052 | FM-IF | 4822 156 21167 |
| 5053 | FM-osc | 4822 157 51817 |
| 5055 | Choke 5.6 $\mu$H | 4822 157 51216 |
| 5056 | AM-RF | 4822 157 51391 |
| 5057 | AM-RF | 4822 157 51509 |
| 5058 | Choke 8 mH | 4822 157 51508 |
| 5059 | AM-RF | 4822 157 51505 |
| 5061 | AM-IF | 4822 153 20233 |
| 5062 | | 4822 153 50247 |
| 5063 | AM-osc | 4822 157 51731 |
| 5066 | Interference | 4822 156 21109 |

| | |
|---|---|
| BA317 | 4822 130 30847 |
| BB204B | 4822 130 34449 |
| BB204G | 5322 130 34825 |
| BZX79-B5V6 | 4822 130 34173 |
| BZX79/C8V2 | 4822 130 34382 |
| Green LN342GP | 4822 130 32258 |
| OF642 | 4822 130 32159 |
| Yellow LN442YP | 4822 130 32257 |
| 1N5059 | 5322 130 34459 |

| | |
|---|---|
| BC547 | 4822 130 44257 |
| BC548 | 4822 130 40938 |
| BC549C | 4822 130 44246 |
| BD139 | 4822 130 40823 |
| BF410A | 5322 130 44905 |
| BF410C | 4822 130 41482 |
| BF410D | 4822 130 41697 |
| BF494 | 4822 130 44195 |

| | |
|---|---|
| AN7254 | 4822 209 81944 |
| AN7273 | 4822 209 81773 |
| TA7325P | 4822 209 81038 |
| TDA2004 | 4822 209 80751 |
| TEA5580 | 4822 209 81882 |

**Miscellaneous**

| | | |
|---|---|---|
| 1056 | Cer. filter 10.7 MHz | 4822 242 70665 |
| 1057 | Cer. filter 10.7 MHz | 4822 242 70665 |
| 1059 | Cer. filter 468 kHz | 4822 242 70763 |
| 1061 | Crystal 4.5 MHz | 4822 242 70761 |
| 1064 | Lamp 100 mA | 4822 134 40546 |
| 1066 | I.A.C. unit | 4822 214 50294 |

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| | | |
|---|---|---|
| 1,5 pF | 5% | 4822 122 31792 |
| 3,9 pF | 5% | 4822 122 32081 |
| 4,7 pF | 5% | 4822 122 32082 |
| 3,3 pF | 5% | 4822 122 32079 |
| 1,8 pF | 5% | 4822 122 32087 |
| 8,2 pF | 5% | 4822 122 32083 |
| 10 pF | 5% | 4822 122 31971 |
| 18 pF | 5% | 4822 122 31769 |
| 22 pF | 10% | 4822 122 31837 |
| 27 pF | 5% | 4822 122 31966 |
| 33 pF | 5% | 4822 122 31756 |
| 39 pF | 5% | 4822 122 31972 |
| 47 pF | 5% | 4822 122 31772 |
| 56 pF | 5% | 4822 122 31967 |
| 68 pF | 10% | 4822 122 31961 |
| 82 pF | 10% | 4822 122 31839 |
| 100 pF | 5% | 4822 122 31765 |
| 120 pF | 5% | 4822 122 31766 |
| 150 pF | 5% | 4822 122 31767 |
| 180 pF | 2% | 4822 122 31794 |
| 220 pF | 5% | 4822 122 31965 |
| 330 pF | 10% | 4822 122 31642 |
| 390 pF | 5% | 4822 122 31771 |
| 470 pF | 5% | 4822 122 31727 |
| 560 pF | 5% | 4822 122 31773 |
| 680 pF | 5% | 4822 122 31775 |
| 820 pF | 10% | 4822 122 31974 |
| 1 nF | 10% | 5322 122 31647 |
| 1 n2 | 5% | 4822 122 31807 |
| 1,5 nF | 10% | 4822 122 31781 |
| 2,2 nF | 10% | 4822 122 31644 |
| 2,7 nF | 10% | 4822 122 31783 |
| 3,3 nF | 10% | 4822 122 31969 |
| 4,7 nF | 10% | 4822 122 31784 |
| 5 n6 | 10% | 4822 122 31916 |
| 6,8 nF | 10% | 4822 122 31976 |
| 10 nF | 10% | 4822 122 31728 |
| 12 nF | 10% | 5322 122 31648 |
| 15 nF | 10% | 4822 122 31782 |
| 18 nF | 5% | 4822 122 31759 |
| 22 nF | 10% | 4822 122 31797 |
| 33 nF | 10% | 4822 122 31981 |
| 100 nF | 20% | 4822 122 31947 |

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| | | |
|---|---|---|
| 0 Ω | jumper | 4822 111 90163 |
| 1 Ω | 10% | 4822 111 90184 |
| 1,1 Ω | 10% | 4822 111 90377 |
| 1,2 Ω | 10% | 4822 111 90378 |
| 1,3 Ω | 10% | 4822 111 90379 |
| 1,5 Ω | 10% | 4822 111 90381 |
| 1,6 Ω | 10% | 4822 111 90382 |
| 1,8 Ω | 10% | 4822 111 90383 |
| 2 Ω | 10% | 4822 111 90384 |
| 3 Ω | 10% | 4822 111 90387 |
| 3,3 Ω | 10% | 4822 111 90447 |
| 4.7 Ω | 5% | 4822 116 60159 |
| 6.8 Ω | 5% | 4822 111 90245 |
| 10 Ω | 5% | 4822 116 60163 |
| 22 Ω | 5% | 4822 111 90186 |
| 27 Ω | 5% | 4822 116 60186 |
| 39 Ω | 5% | 4822 111 90361 |
| 47 Ω | 5% | 4822 111 90217 |
| 51 Ω | 5% | 4822 111 90365 |
| 56 Ω | 5% | 4822 116 60187 |
| 68 Ω | 5% | 4822 111 90203 |
| 82 Ω | 5% | 4822 116 60158 |
| 100 Ω | 5% | 5322 111 90091 |
| 130 Ω | 5% | 4822 116 60164 |
| 150 Ω | 5% | 5322 111 90098 |
| 220 Ω | 5% | 4822 111 90178 |
| 270 Ω | 5% | 4822 111 90154 |
| 330 Ω | 5% | 5322 111 90106 |
| 390 Ω | 5% | 5322 111 90138 |
| 430 Ω | 5% | 4822 111 90221 |
| 470 Ω | 5% | 4822 111 90217 |
| 510 Ω | 5% | 4822 111 90245 |
| 560 Ω | 5% | 5322 111 90113 |
| 680 Ω | 5% | 4822 111 90162 |
| 750 Ω | 5% | 4822 111 90438 |
| 820 Ω | 5% | 4822 111 90171 |
| 1 kΩ | 5% | 5322 111 90092 |
| 1,1 kΩ | 5% | 4822 111 90294 |
| 1,2 kΩ | 5% | 5322 111 90096 |
| 1,3 kΩ | 5% | 4822 111 90244 |
| 1,5 kΩ | 5% | 4822 111 90151 |
| 1,8 kΩ | 5% | 5322 111 90101 |
| 2 kΩ | 5% | 4822 111 90165 |
| 2,2 kΩ | 5% | 5322 111 90102 |
| 2,7 kΩ | 5% | 4822 111 90179 |
| 3 kΩ | 5% | 4822 111 90198 |
| 3,3 kΩ | 5% | 4822 111 90157 |
| 3,9 kΩ | 5% | 4822 116 60156 |
| 4,7 kΩ | 5% | 5322 111 90111 |
| 5.1 kΩ | 10% | 5322 111 90268 |
| 5,6 kΩ | 5% | 5322 111 90114 |
| 6,8 kΩ | 5% | 5322 111 90117 |
| 7,5 kΩ | 5% | 4822 111 90276 |
| 8,2 kΩ | 5% | 5322 111 90118 |
| 10 kΩ | 2% | 4822 111 90249 |
| 12 kΩ | 2% | 4822 111 90253 |
| 15 kΩ | 5% | 4822 111 90196 |
| 16 kΩ | 5% | 4822 111 90346 |
| 18 kΩ | 5% | 4822 111 90238 |
| 22 kΩ | 2% | 4822 111 90251 |
| 27 kΩ | 5% | 4822 111 90155 |
| 30 kΩ | 2% | 4822 111 90216 |
| 33 kΩ | 5% | 4822 111 90219 |
| 39 kΩ | 5% | 5322 111 90108 |
| 47 kΩ | 5% | 5322 111 90112 |
| 56 kΩ | 5% | 5322 111 90115 |
| 68 kΩ | 5% | 4822 111 90202 |
| 75 kΩ | 5% | 4822 111 90204 |
| 82 kΩ | 5% | 4822 116 60185 |
| 100 kΩ | 2% | 4822 111 90214 |
| 120 kΩ | 5% | 4822 111 90149 |
| 150 kΩ | 5% | 5322 111 90099 |
| 200 kΩ | 5% | 4822 111 90351 |
| 220 kΩ | 5% | 4822 111 90197 |
| 240 kΩ | 5% | 4822 111 90215 |
| 270 kΩ | 5% | 4822 111 90302 |
| 330 kΩ | 5% | 4822 116 60174 |
| 390 kΩ | 5% | 4822 111 90182 |
| 470 kΩ | 10% | 4822 111 90161 |
| 560 kΩ | 5% | 4822 111 90169 |
| 620 kΩ | 2% | 4822 111 90213 |
| 680 kΩ | 10% | 4822 111 90368 |
| 820 kΩ | 5% | 4822 111 90205 |
| 1 MΩ | 2% | 4822 111 90252 |
| 2,2 MΩ | 10% | 4822 111 90185 |
| 3,3 MΩ | 10% | 4822 111 90191 |
| 6,8 MΩ | 10% | 4822 111 90328 |
| 8,2 MΩ | 10% | 4822 111 90329 |